



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/743,766 | 12/24/2003 | Jonathan S. Lei | NVL 3225 | 9450 |

35391 7590 08/29/2005
DEPARTMENT OF THE ARMY
AMSEL LG P NVEO
10225 BURBECK ROAD
FORT BELVOIR, VA 22060-5806

EXAMINER

RATCLIFFE, LUKE D

ART UNIT PAPER NUMBER

3662

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/743,766 | LEI ET AL. | |
| | Examiner | Art Unit | |
| | Luke D. Ratcliffe | 3662 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: comparator 21(2) and threshold level A₂. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Olson (5321490).

Art Unit: 3662

Referring to claim 1 Olson shows a single-shot laser rangefinder having a photo-detector (figure 3 Ref 362), a range processor (figure 3 Ref 352), using a time difference calculation to find distance (column 1 lines 57-70), and a range compensation means (column 5 lines 20-60).

Referring to claim 2 Olson shows a range accuracy compensation means that is connected to the photo-detector by way of a signal amplifier (figure 3 Ref 326).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 -18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (5321490) in view of Green (2002/0136251).

Referring to claim 3 – 7, 9, and 11-18 Olson shows a single-shot laser rangefinder having a photo-detector (figure 3 Ref 362), a range processor (figure 3 Ref 352), using a time difference calculation to find distance (column 1 lines 57-70), and a range compensation means (column 5 lines 20-60). Green shows a comparator system that detects the amplitude based on threshold voltages that are set in the comparator circuit and outputs a binary word indicative of the particular voltage level of the signal as compared to the threshold voltages

Art Unit: 3662

(column 4 and 5). The system will then pass a binary word representing an amplitude to a microcontroller that will make a correction factor adjustment based on stored values corresponding to different amplitudes (column 4 and 5). It would have been obvious to use a plurality of comparators and latches to implement the circuit taught by Green because this would be a common execution of the circuit. It would have been obvious if using latches to have each latch connect to an input in the microcontroller. It would be obvious to then pass the corrected range of the microcontroller to the range processor. It would be obvious to modify Olson to use a correction factor that uses the amplitude detection taught by Green because such a correction factor could be useful when using laser that have a long rise time to keep the accuracy of the range finder within a tolerance.

Referring to claim 8 it would have been obvious using this correction method to connect the microcontroller output to the processor and have the microcontroller output the compensated range to the range processor upon decoding the output signals of the latches.

Referring to claim 10 Olson as modified shows a method for receiving a return (Olson figure 3 Ref 362), a method of determining a range (Olson column 1 lines 57-70), a method for determining within a certain error band the amplitude (Green column 4 and 5), and using the amplitude information to add a corrective factor (Green column 4 and 5). It would have been obvious to modify Olson to implementing the corrective factor taught in Green to be used to correct the distance because Olson is a rangefinder. It would be obvious to modify Olson to

Art Unit: 3662

use a correction factor that uses the amplitude detection taught by Green because such a correction factor could be useful when using laser that have a long rise time to keep the accuracy of the range finder within a tolerance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

LDR



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600